



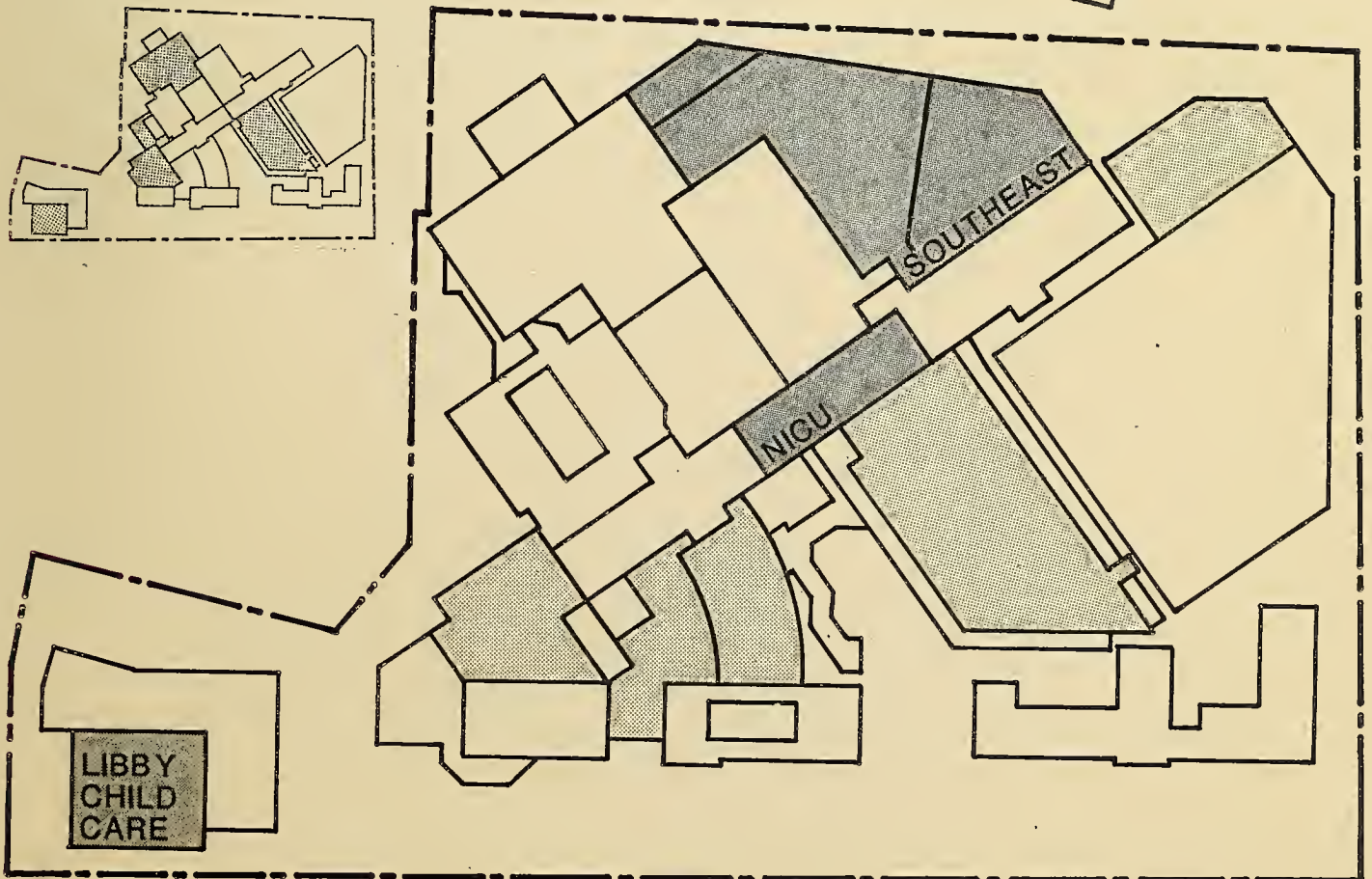
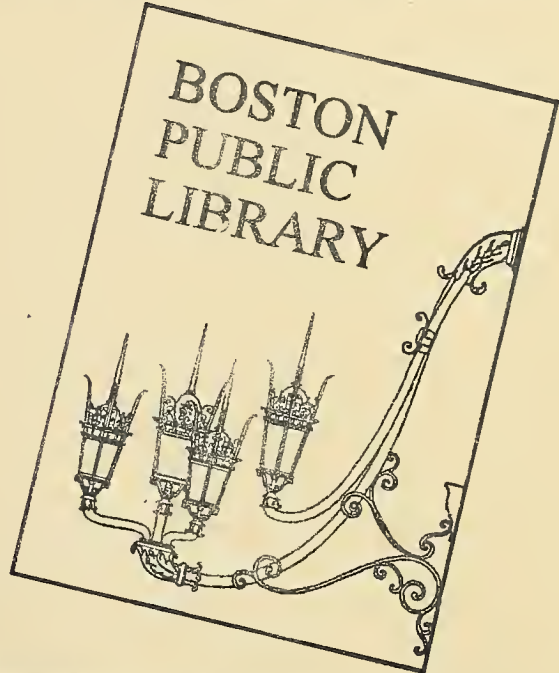
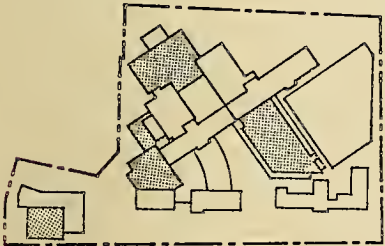
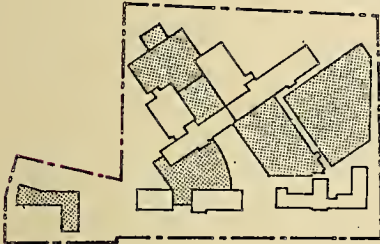
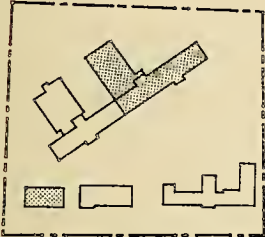
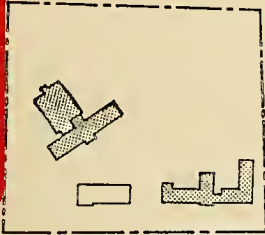
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BETH ISRAEL HOSPITAL MASTER PLANNING



711 Atlantic Avenue

Boston MA 02111

(617) 451 6990

Planning

Feasibility

Urban Design

Architecture

Interiors

1 December 1989

Mr. Frank Sullivan
Vice President for Facilities Planning
Beth Israel Hospital
330 Brookline Avenue
Boston, MA 02115

Re: Beth Israel Hospital/Master Planning
RRH Architects Inc. Project No. 85036.00

Dear Frank:

We are herewith transmitting an update of the report "Beth Israel Hospital Master Planning" for your review and for discussion with the City of Boston in conjunction with the Zoning Board of Appeals hearing for a zoning variance for the Child Care Center.

Three projects have been added to the Master Plan since the January 1988 report and June 1988 updates. These include:

- o Southeast Building: A multi-use building devoted primarily to inpatient and ancillary services, floors Sub-Basement through 10, on a site at the southeast corner of the campus. This site was identified in the previous "Master Planning" document as an "alternative development site".
- o Neonatal Intensive Care Unit (NICU): An addition above the roof level of the Stoneman Building to provide an expanded Neonatal Intensive Care Unit contiguous to the existing Labor and Delivery Suite on floor 10 of the Reisman Building.
- o Child Care Center: An addition to the Libby Building to provide a Child Care Center for children of Beth Israel Hospital employees.

This revision of the "Beth Israel Hospital Master Planning" is accompanied by a Transportation Study, prepared by Vanasse Hangen and Brustlin, transmitted by the Hospital to the Boston Redevelopment Authority under separate cover. The Transportation Study addresses the Transportation Master Planning issues related to the Southeast Building.

Martha L Rothman
President

Robert M Heineman
Vice President

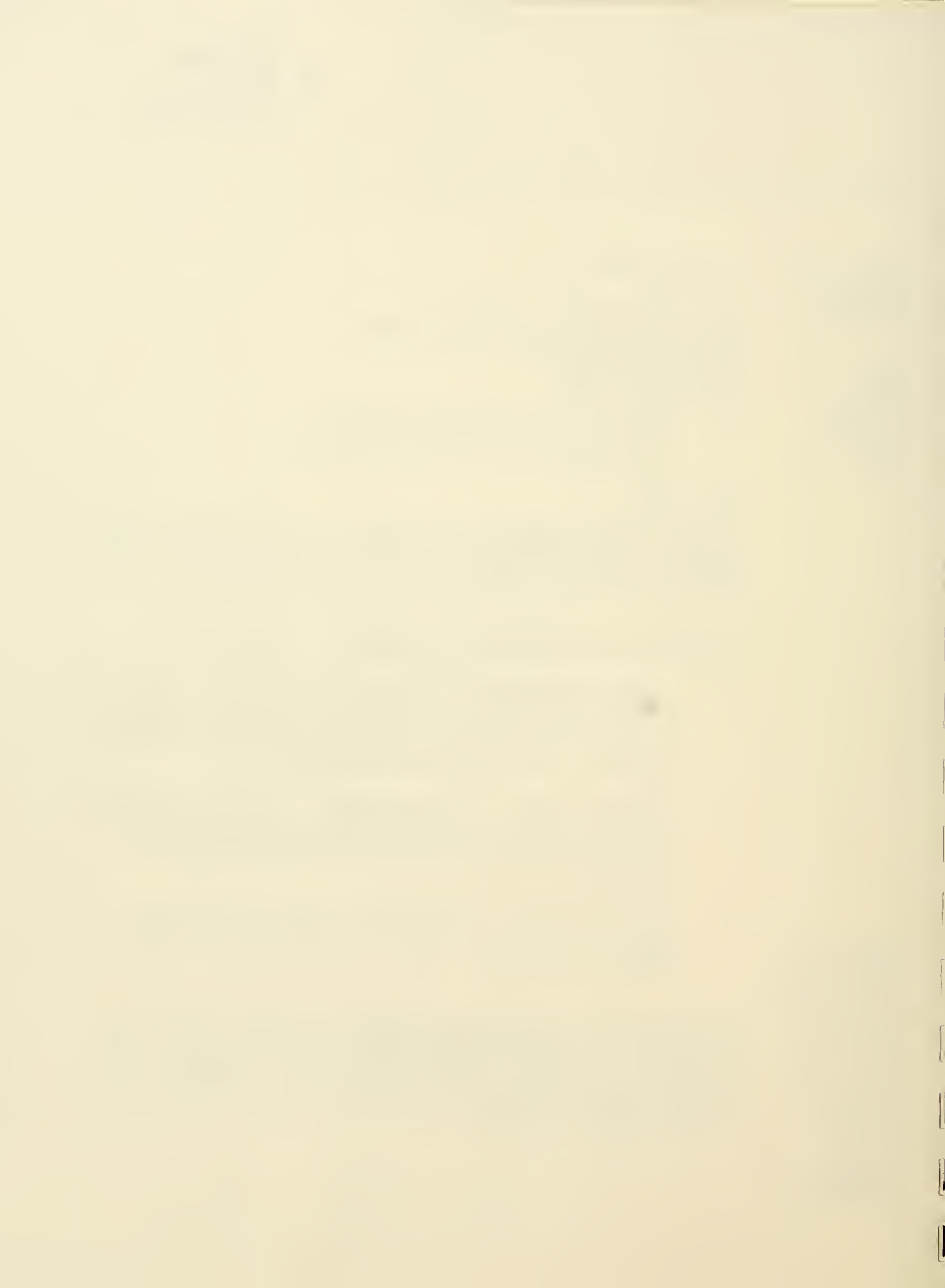
Elliot Paul Rothman
Treasurer

M Murray Leibowitz
Principal

Herman B Zinter
Associate

Arthur G Chan
Associate

Anne D Dooley
Interior Design



Mr. Frank Sullivan
Vice President for Facilities Planning
Beth Israel Hospital
RRH Architects Inc. Project No. 85036.00
1 December 1989
Page 2

Since the last submittal, the following projects referenced in the "Master Planning" document have commenced construction or been completed. Their specific schedules are outlined on page 5.01.

- o Research West
- o Research East (formerly "Emmanuel Science Building")
- o Animal Facilities Addition

As previously stated, we expect to continue to revise, update and augment this "Master Planning" document. The changes in planning strategy which are described herein reflect the dynamic character of health care at Beth Israel in particular as well as in the larger community.

Very truly yours,



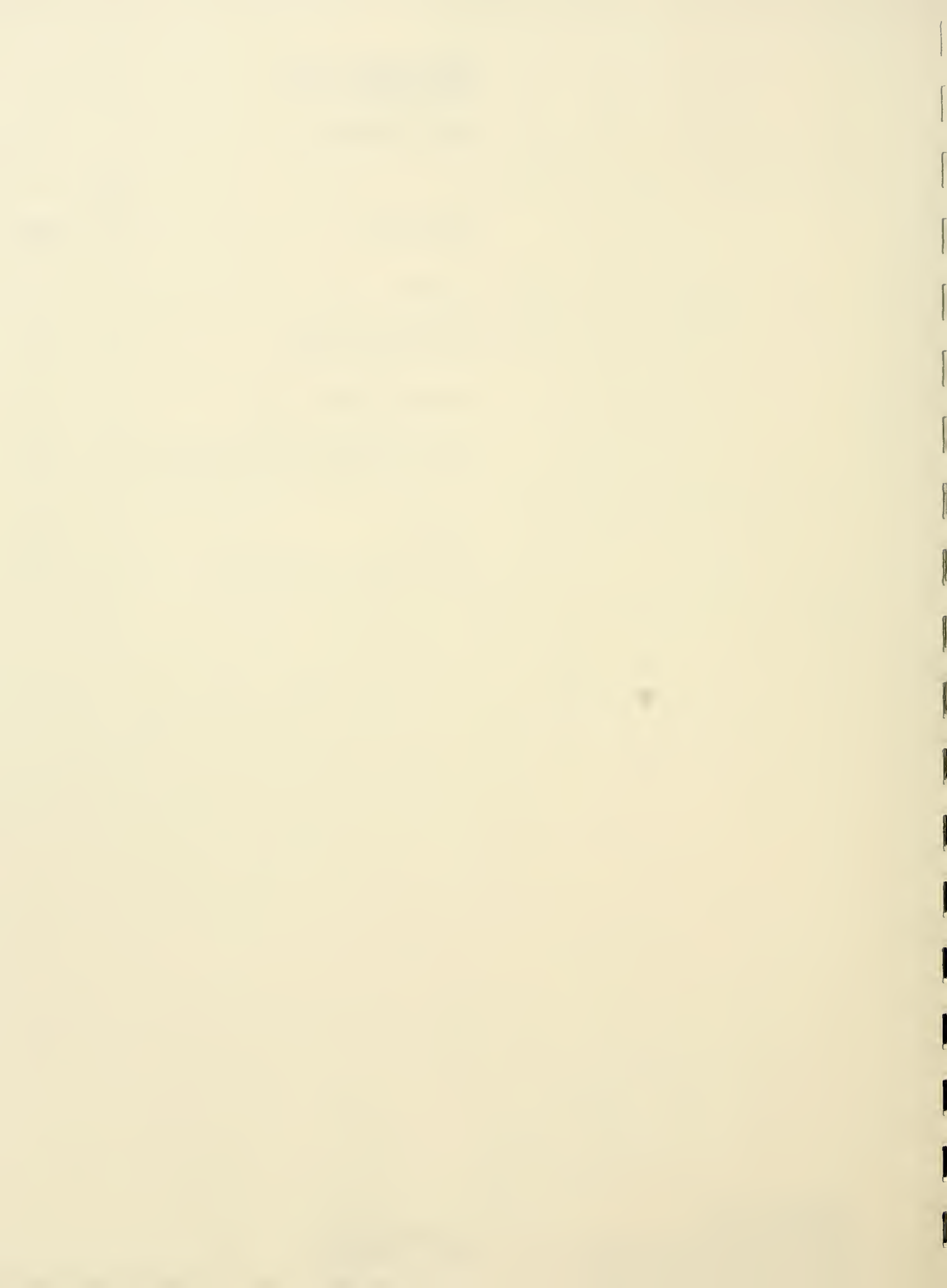
Martha L. Rothman A.I.A.

cc: Mitchell T. Rabkin, MD BIH
David Dolins BIH
Eugene Wallace BIH
David Freiman, MD BIH

**BETH ISRAEL HOSPITAL
MASTER PLAN**

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**BETH ISRAEL HOSPITAL
MASTER PLAN**

INTRODUCTION

Mission Statement

The original mission statement of Beth Israel Hospital in 1915 was formulated as follows, in the Hospital By-Laws:

"The object of this Corporation shall be to provide medical and hospital services for the sick and disabled of any race, creed, color or nationality, and to carry on such educational, philanthropic and scientific activities and functions as are a part of efficient, modern hospital service."

The most recent mission statement, November 1983, does not deflect from the original statement which is still valid today. It begins as follows:

"The major mission of the Beth Israel Hospital is to deliver patient care of the highest quality, in both scientific and human terms. This mission is to be carried out within a framework of financially responsible management which is sensitive to the requirements both to deliver health care which is efficient and cost-effective and to be considerate of the overall health needs of the populations of concern to the Hospital.

Patient care at Beth Israel Hospital is to be provided in a context of clinical teaching, through the participation and teamwork of clinicians, teachers, research scientists and others who are also the sources of innovation and progress for future improvement in care capabilities. The strength of Beth Israel is partly attributable to its role as a major teaching hospital affiliated with Harvard Medical School; to maintain and strengthen that role, the Hospital will continue to exercise leadership through excellence in teaching and research activities as well as in its clinical services."

Service to Boston Residents

Consistent with its mission of delivering "health care which is efficient and cost-effective" and "considerate of the overall health needs of the populations of concern to the Hospital", Beth Israel provides service to neighborhood health centers within the City of Boston. These include:



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**BETH ISRAEL HOSPITAL
MASTER PLAN**

INTRODUCTION

- o Dimock Health Center, Roxbury
- o South Cove Health Center, South Cove
- o East Boston Health Center, East Boston

Boston Employment

The Hospital provides a major employment base for the City of Boston. According to Beth Israel Hospital employment data, 41% of BIH employees are City of Boston residents and, of those, 11.5% are Fenway residents.

Employment outreach programs for Boston-based residents in which Beth Israel participates include:

- Boston Technical Center Training, Inc.
- United South End Settlements
- Chinatown Occupational Training Center
- YWCA
- YMCA
- Jewish Vocational Services
 - including Older Worker Program
- Division of Employment Security
- Grow with Massachusetts
- Private Industry Council/Boston Compact
 - Summer Jobs Program
 - Part-time employment throughout school year
 - Collaborative effort between PIC and Boston Teaching Hospitals on training and upgrading
- Humphry Occupational Resource Center
 - Member of Health Care Career Committee
 - Member of Employer Advisory Committee for job placement
- ABCD
- Bridge over Troubled Water
- Mass Project with Industry

**BETH ISRAEL HOSPITAL
MASTER PLAN**

INTRODUCTION

Planning Process and Implementation

Master Planning has been a dynamic activity at Beth Israel Hospital. In 1976, the Feldberg Building was completed, providing a new entrance for the Hospital, a major presence on Brookline Avenue, and new facilities for patient care. In 1980, the Charles A. Dana Building was occupied for research activity. Submittal of the application for Determination of Need

2 January 1981 for "The Project" was a major milestone, defining the course of facilities development from that date projected through 1986. Today, each of the new buildings projected in the DON is completed and occupied: Libby, Reisman, and Finard. Stoneman, totally renovated in the patient care units from floors 4 through 8, is completed and occupied, including the eight foot extension at the east facade which provides patient rooms that meet the standards set by new construction at Feldberg and Reisman. In addition, several diagnostic service components have been completed, Cardiology on Gryzmish 4 and Neurophysiology on Gryzmish 5.

A new building for the Joint Center for Magnetic Resonance Imaging (MRI) was completed in 1987 to add another major diagnostic tool to the Longwood Medical Area (LMA), and improve patient waiting, stretcher holding, and ultrasound facilities.

First Interim Report

In the initial interim report "Master Planning" dated 18 January 1988, eight years after the initial planning for "The Project", Beth Israel Hospital used the opportunity to reevaluate the programs and space assignments previously established, and to propose further development of new facilities for medical research, inpatient and clinical units, and departmental offices as follows:

- o Research West 4-9 Research expansion of Dana Building
- o Northeast 6-8 Inpatient and related outpatient programs
- o Rabb 4 & 5 Physician and faculty offices



INTRODUCTION

Second Interim Report

This amended issue of an interim report summarizes the changes in planning of new facilities after January 1988.

Since that time, Research West has been completed. That project has been followed by incremental expansion of animal facilities on site at Slosberg-Landay 3 and by renovation of the existing Science Building, leased from Emmanuel College, now designated "Research East", for research on the site immediately adjacent to the Hospital.

Three priority projects have been the subsequent focus of planning activity:

- o Southeast Building: A multi-use building devoted primarily to inpatient and ancillary services, floors Sub-Basement through 10, on a site at the southeast corner of the campus. This site was identified in the previous "Master Planning" document as an "alternative development site".
- o Child Care Center: An addition to the Libby Building to provide a Child Care Center for children of Beth Israel Hospital employees.
- o Neonatal Intensive Care Unit (NICU): An addition above the roof level of the Stoneman Building to provide an expanded Neonatal Intensive Care Unit contiguous to the existing Labor and Delivery Suite on floor 10 of the Reisman Building

Continued growth in bio-medical research and ambulatory care creates a need for increased space for those activities. Alternative sites are being evaluated.

**BETH ISRAEL HOSPITAL
MASTER PLAN**

INTRODUCTION

Changing Planning Assumptions

Present and future needs as described in the 18 January 1988 Master Planning document are based on the 460 bed capacity of Beth Israel Hospital existing at that date. Since that time, new health care legislation in the Commonwealth influenced significantly two factors in the Hospital's planning. First, regulations controlling bed capacity have changed, allowing hospitals in the Commonwealth to expand their bed capacity, provided that census justifies the increase. Second, reimbursement policies have affected the hospital's operating budget, influencing decisions as they relate to income and expenses.

Bed Capacity

D.O.N. regulations no longer require review and approval of increase in number of beds, provided that a hospital meets certain conditions. Under the new regulations, a hospital's licensed medical/surgical bed capacity may be adjusted annually provided that the occupancy rate is at least 75%.

Given current changes in regulations, Beth Israel has recently reconsidered its previous policy of maintaining its licensed number of beds and has increased its licensed capacity.

To meet demand for additional acute care beds in an expeditious manner, the Hospital has upgraded existing nursing units in the 1928 Gryzmish Building, opening beds that were scheduled previously to be closed.

Effect on Planning

With the licensed number of beds increased from 460 to 504 on 1 January 1989, other facility needs of the Hospital have changed. Recognizing a need for additional medical/surgical, obstetrical and intensive care beds, the Hospital reviewed its proposed space needs.

With space in the Gryzmish building assigned to acute care patient units, the remaining space available in the proposed Northeast floors 6 through 8 no longer accommodates the special inpatient programs of the Hospital.

**BETH ISRAEL HOSPITAL
MASTER PLAN**

INTRODUCTION

The Determination of Need application filed 1 September 1987 for Northeast 6-8 to provide space for inpatient and outpatient care, incorporating space in the adjoining Gryzmish Building, was withdrawn September 1988.

Patient Care: Southeast Building

In a Determination of Need application submitted 1 September 1988, Beth Israel requested approval of a new Southeast Building to include 48 replacement beds for inpatient oncology including bone marrow transplantation, for replacement of the inpatient psychiatric unit, and for replacement of the 10 bed Clinical Research Center, requesting an increase in the total bed complement to 552.

In addition to space for the increased number of beds, support space must be provided to meet the increased demand of additional patient activity.

Patient Care: NICU

An alternative to a NICU within the Southeast Building is being considered by Beth Israel Hospital due to the extended schedule and magnitude of the Southeast Building.

Child Care Center

A Child Care Center for children of Beth Israel Hospital staff is currently proposed on site.



**BETH ISRAEL HOSPITAL
MASTER PLAN**

LOCATION

Land Ownership

Beth Israel Hospital, located at 330 Brookline Avenue between the Fenway and Longwood Avenue, owns 8.94 acres at the north end of the Longwood Medical Area (LMA). All abutting properties are owned by other institutions. The property is bordered at the north and east by Emmanuel College, at the east also by the Judge Baker Guidance Clinic, at the south by the Longwood North parking garage and by the Massachusetts College of Art, and at the west by Brookline Avenue.

Land Use

The Beth Israel Hospital property is occupied entirely by hospital and bio-medical research use, with parking as an accessory use. Hospital programs include inpatient and outpatient care, research and education. Buildings on the campus with their use and area are listed on a chart in Section 2 of this report.

Off-site Properties

*Research
East*

Beth Israel Hospital currently leases other properties within or close to the Longwood Medical Area; these include the Science Building at Emmanuel College to be renovated by BIH for research, 109 Brookline Avenue occupied by offices for the Department of Fiscal Affairs, and the Queensbury Street Garage for parking. Other surface parking lots are leased for parking, as described in Section 6 Transportation and Parking.

Off-site storage is leased at multiple locations.

**BETH ISRAEL HOSPITAL
MASTER PLAN**

LOCATION



**BETH ISRAEL HOSPITAL
MASTER PLAN**

LOCATION

Zoning: Land Area by Parcel

As shown in the site plan on the following page, the land at Beth Israel Hospital at 330 Brookline Avenue is located partially within an H-3 Residential/Apartment Zoning District, and partially within a similar H-2 Zoning District.

Land within the H-3 Zoning District consists of Parcel 1 (334,994 SF) and a strip discontinued along Brookline Avenue in 1984 (3,027 SF), a total of 338,021 SF. The maximum Floor Area Ratio (FAR) = 3.

Land within the H-2 Zoning District consists of Parcel 2 (1,290 SF) and Parcel 3 (50,223 SF), a total of 51,513 SF. The maximum Floor Area Ratio (FAR) = 2.

The total lot area of the combined parcels is 389,534 SF.

Zoning: Maximum Allowable

For zoning computations, gross floor area of building construction is adjusted to exclude area assigned to mechanical equipment and shafts or other accessory uses such as the on-site garage parking space.

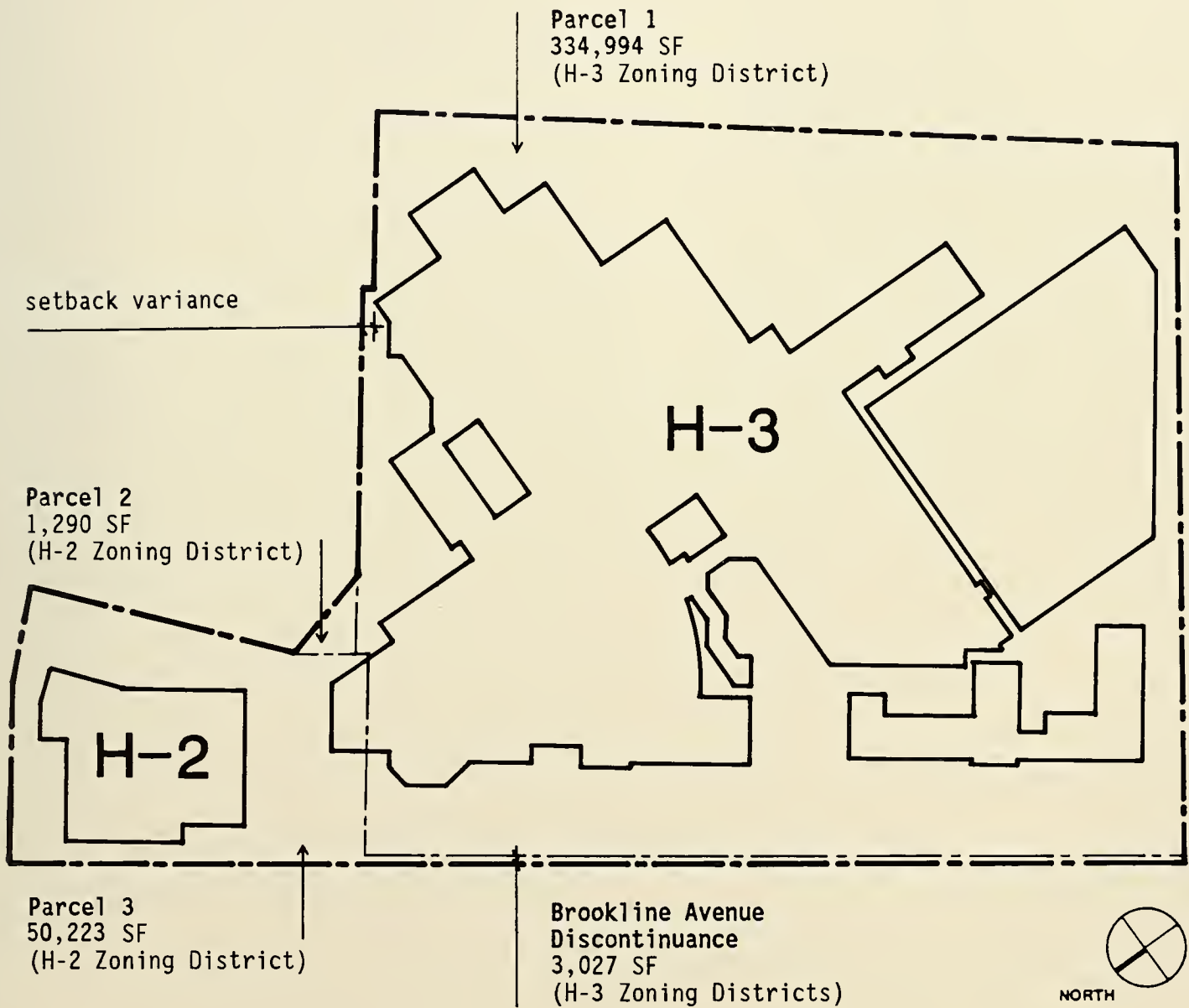
The maximum allowable limit of development at Beth Israel Hospital, under current zoning expressed as the maximum allowable adjusted floor area by parcel (or land area multiplied by floor area ratio) is tabulated as follows:

<u>Parcel</u>	<u>Land Area</u>	<u>FAR</u>	<u>Max. Allowable Floor Area</u>
H-3	338,021	3	1,014,063
H-2 (Libby)	51,513	2	103,026
Total:	389,534	SF	1,117,089

BETH ISRAEL HOSPITAL
MASTER PLAN

LOCATION

Diagrammed below are the separate land parcels in two zoning districts which comprise the total lot of area of Beth Israel Hospital at 330 Brookline Avenue:





**BETH ISRAEL HOSPITAL
MASTER PLAN**

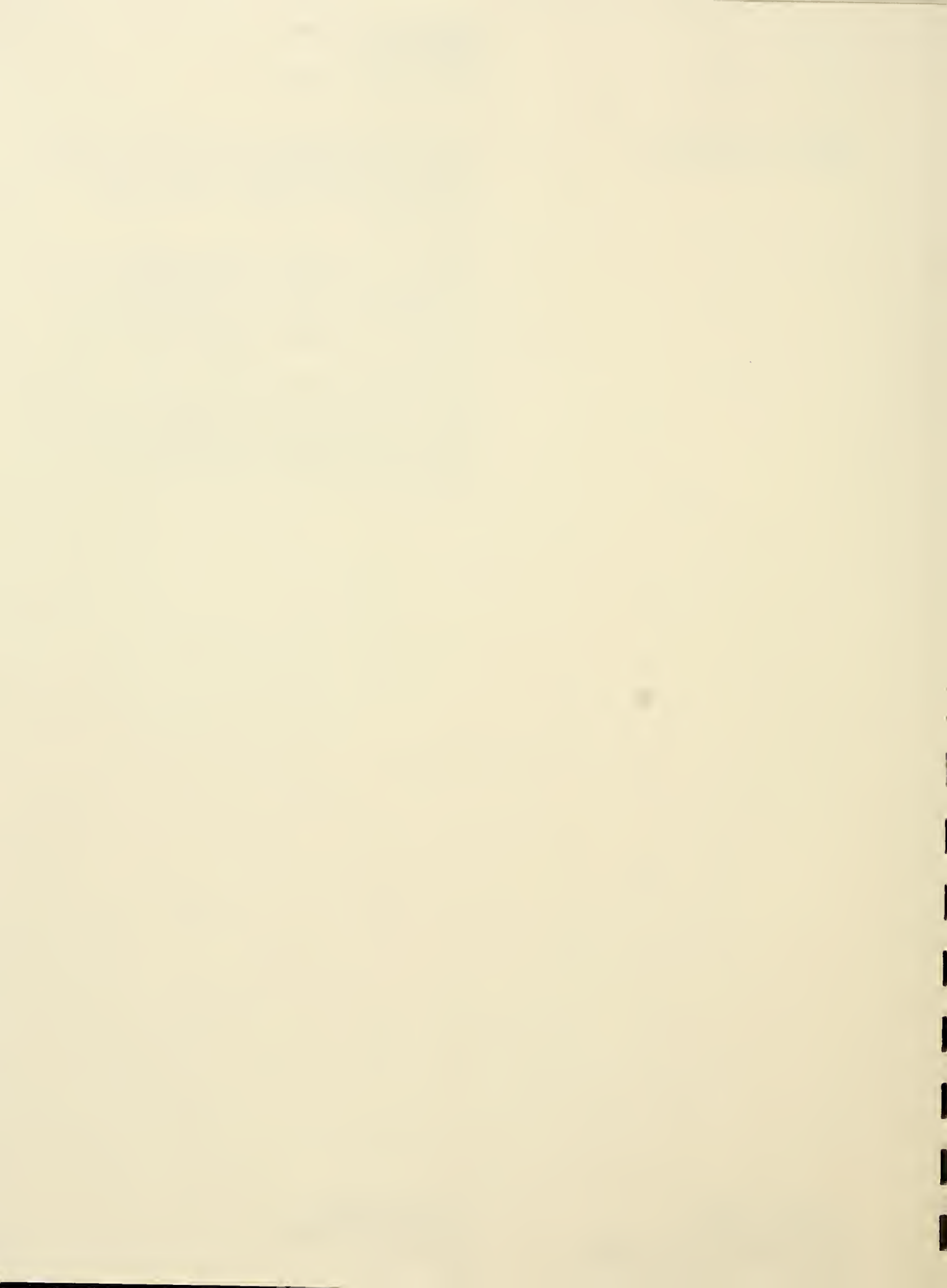
EXISTING DEVELOPMENT

Summary of Development

Historical development at Beth Israel Hospital is characterized by four distinct periods of sustained new construction, separated by intervals of several years without new construction.

Charts on the following page summarize the development periods as a chronological series of diagrammatic site plans indicating new additions in the four development periods: 1927-1932, 1948-1958, 1966-1977, 1982-1989.

Two of the four development periods occurred after enactment in 1965 of the Boston Zoning Code. As provided in the code, the gross floor area of building constructed before 1965 is excluded from computations that determine the number of required truck loading bays.

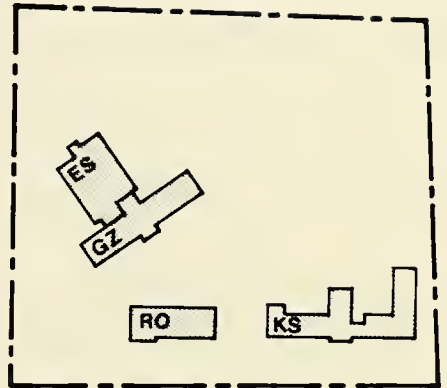


BETH ISRAEL HOSPITAL
MASTER PLAN

EXISTING DEVELOPMENT

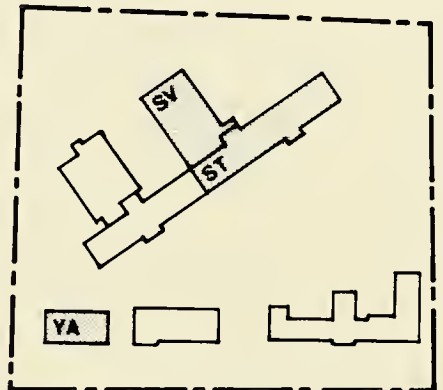
Period 1927 -1932

Rose	RO	1928
Gryzmish	GZ	1929
East	ES	1930
Kirstein	KS	1931



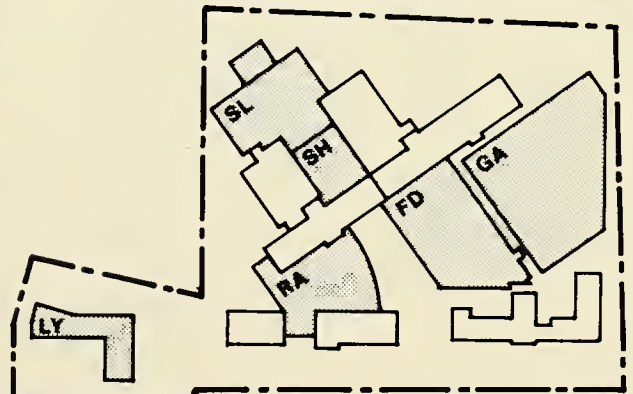
Period 1948 -1958

Yamins	YA	1948
Service	SV	1949
Stoneman	ST	1950



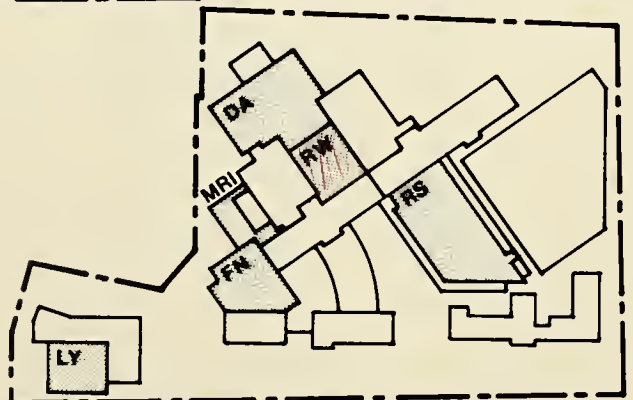
Period 1966 -1977

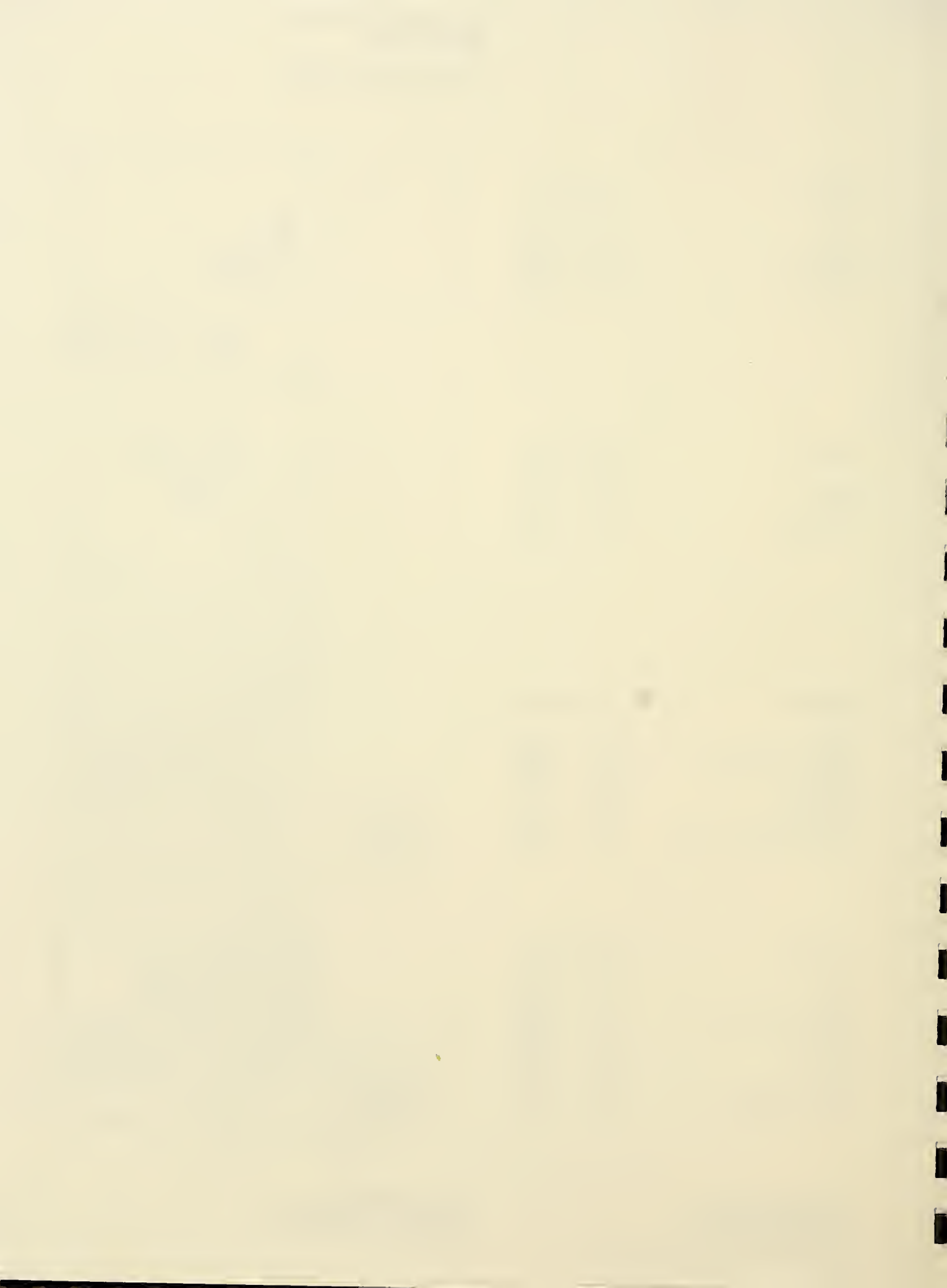
Rabb	RA	1966
Slosberg-Landay	SL	1969
Sherman	SH	1970
Garage	GA	1973
Feldberg	FB	1976
Libby (acquisition)	LY	1977



Period 1982 -1989

Dana	DA	1982
Libby Addition	LY	1984
Reisman	RS	1984
Finard	FN	1985
MRI	MRI	1987
Research West	RW	1989





BETH ISRAEL HOSPITAL
MASTER PLAN

EXISTING DEVELOPMENT

BUILDING NAME	YEAR BUILT	NO OF FLOORS	GSF	USES	FLOORS	NOTES
Rose	1928	B-4	31,796	Outpatient		
Gryzmish	1929	SB-8	97,705	Clinical Services		(a)
East	1930	SB-4	38,320	Diagnostic Services Inpatient Psychiatry Offices/Support		(b)
Kirstein	1931	B-4	65,828	Outpatient & Support		(c)
Yamins	1948	SB-4	30,220	Clinical Support		(d)
Service	1949	SB-4	63,874	Support including Kitchen, Cafeteria Ambulatory Surg	SV3	
Stoneman	1950	SB-8	118,113	Inpatient Recovery Administration Ambulatory Surg Support	ST4 ST3 ST2 ST1 STB	(e)
Rabb	1966	B-4	54,484	Outpatient		
Slosberg-Landay	1969	SB-4	91,186	Research		
Sherman	1970	SB-4	40,256	Offices Spec. Proc. Pathology Nucl Med/Support	SH3,4 SH2 SH1 SHB	(f) (f)
Garage	1973	B-3	158,706	Parking		

**BETH ISRAEL HOSPITAL
MASTER PLAN**

EXISTING DEVELOPMENT

BUILDING NAME	YEAR BUILT	NO OF FLOORS	GSF	USES	FLOORS	NOTES
Feldberg	1976	B-8M	191,078	Inpatient Surgery Admitting Lobby Main Entrance Support	FD5,8 FD4,3 FD2 FD1 FDB	
Libby	1977	B-3	41,208	Administration Offices		(g)
Dana	1982	5-9	87,794	Research		
Libby Addition	1984	B	7,155	Computer Medicine		(h)
Reisman	1984	9-12	84,410	Inpatient LDR & NICU Intensive Care	RS11,12 RS 10 RS 9	(h)
Finard	1985	B-5	56,389	Intensive Care Clinical Labs Medical Records Emergency Radiation Therapy	FN4 FN3 FN2 FN1 FNB	(h)
Stoneman 4-8	1986	4-8	5,620	Patient Rooms	ST4-8	
FD/RA Connector	1986	1	1,393	Enclosed Connector	FD/RA 1	
Compactor	1986	B	850	Trash Compactor	SL B	
MRI	1987	2-3	10,376	MRI Med Library (fut)	MRI 3 MRI 2	
Stoneman 1	1987	1	835	Recovery	ST 1	
Research West	1989	4-9	33,282	Research		
TOTAL GROSS SQUARE FEET			1,310,878			

* Gross square feet before deduction of exclusions permitted by Boston Zoning Code. Figures for Rose, Finard and Libby Buildings include area of tunnel.

BETH ISRAEL HOSPITAL
MASTER PLAN

EXISTING DEVELOPMENT

NOTES:

- (a) Constructed as inpatient building. Renovated partially in 1986 for in and outpatient diagnostic services. Renovation of floors 6-8 as nursing unit support for Stoneman and Northeast inpatient units, DON application filed 1 September 1987.
- (b) Inpatient Psychiatry proposed to be relocated from East 2 to Northeast 8: DON Application filed 1 September 1987. East 2 to be reused for radiology offices.
- (c) Facilities master plan proposes increased use of Kirstein for out-patient services, with relocation of support services to Libby or off-site. Long-range use impacted by potential Mass. College of Art site acquisition and development.
- (d) Yamins B, 1 & 3 renovated for clinical support with construction of Finard Building (part of "The Project"). Yamins 2 & 4 to be renovated for departmental offices as part of "proposed projects."
- (e) Stoneman 4-8 renovated totally, including 5500 square foot addition in 1985 for inpatient care (part of "The Project").
- (f) Sherman 3 & B to be renovated as part of radiology department improvements and support services (part of "The Project" Phase 2).
- (g) Built in 1958 by Emmanuel College. Acquired in 1977 by Beth Israel Hospital and renovated for administrative offices.
- (h) Built as part of "The Project".



**BETH ISRAEL HOSPITAL
MASTER PLAN**

PRESENT AND FUTURE NEEDS

Programmatic

Beth Israel Hospital programs include inpatient and outpatient care, research and education. Construction since 1976 has provided additional space in all of these areas: new nursing units for acute and intensive care, an innovative labor/delivery/recovery suite, emergency unit, diagnostic facilities including MRI, and research laboratories.

At this juncture, more than ten years after the Feldberg Building was occupied and after the Dana Research Building, The Project, and MRI are completed, additional program requirements require new facilities.

Research

A Division of Molecular Medicine within the Department of Medicine has been created for studies in genetics, immunology, hematology and other fields. An on-site location will provide this area of scientific investigation with access to other on-site research activity and personnel, and will continue to blend basic science with clinical opportunities.

New chairpersons for the Departments of Medicine, Neurology, Obstetrics/Gynecology, and Anesthesiology will generate laboratory activities calling for more space. Research grants have more than doubled since construction of the Dana Research Building in 1982 and research space needs have continued to increase accordingly. The Hospital is evaluating options to provide additional research space on and off site.

Inpatient

The existing psychiatric inpatient unit on East 2 was built in 1967 to house short stay ambulatory patients; the facilities have been inadequate to receive medically ill patients who would be appropriately housed on a psychiatric unit.

**BETH ISRAEL HOSPITAL
MASTER PLAN**

PRESENT AND FUTURE NEEDS

The Clinical Research Center funded under a grant from the National Institutes of Health has inadequate facilities for sick patient as well as inadequate space for outpatient studies.

Growth in oncology treatment and advances in the methods of care for oncology patients have led to the clustering of oncology patients on one unit, housed temporarily in the Stoneman Building. Technology in bone marrow transplantation requires a specially designed unit.

Outpatient

The growth of outpatient care and benefits of adjacency for patients and staff between inpatient and outpatient units suggest that additional outpatient facilities be provided on site.

Consideration is being given to expansion of outpatient facilities off site as well.

Education

Full-time faculty/physicians need offices on-site in proximity to clinical and research activities. Benefits accrue to the quality of care if departmental offices are clustered, increasing informal contact and communication within and between departments.



**BETH ISRAEL HOSPITAL
MASTER PLAN**

PRESENT AND FUTURE NEEDS

Existing Site Utilization

Existing buildings on site are occupied fully, and site coverage with buildings is almost at capacity.

Off-site Moves

Beth Israel has been implementing a policy of moving administrative and support functions off campus, to the extent that these departments do not need direct access to the main campus at all times. Purchasing and fiscal, including the main frame computer, occupy two floors of leased space at 109 Brookline Avenue. Shuttle buses are provided for staff transport between 109 and the main campus at 330 Brookline Avenue. The Science Building at Emmanuel College has been leased to relocate certain research activity to renovated space on the adjacent campus.

On-site Development Sites

As part of the master planning at Beth Israel Hospital, a study has been done of potential development sites on campus. Due to limitation of land availability, the conclusions of the study yielded more potential sites above existing buildings for vertical expansion than potential sites for horizontal, on-grade expansion.

Precedents for Vertical Expansion

Precedents at BIH for vertical expansion are the Dana Research Building built in 1982 above the existing Slosberg-Landay Research Building and the Reisman Building built in 1984 above the existing Feldberg Building.



**BETH ISRAEL HOSPITAL
MASTER PLAN**

PRESENT AND FUTURE NEEDS

Alternative Development Scenarios

Section 4 describes potential on campus sites studied and remaining for future development. In the January 1988 "Master Planning", three sites had been selected for development to solve the programmatic needs at that time. The three sites were: Research West, Northeast 6-8, and Rabb 4 & 5. Since that time, Research West has been completed. Off-site development proposed for research at the Emmanuel Science Building (Research East) is currently being implemented; renovations are scheduled for completion January 1990. The other two sites: Northeast 6-8 and Rabb 4 & 5 are being studied for outpatient care programs.

Research West

Research West has been constructed above the existing Sherman Building, built in 1970 as infill construction bordered by Slosberg-Landay, Service, Gryzmish, and East Buildings.

The new addition houses research activity; circulation to the addition is provided from the Dana and Gryzmish Buildings.

Space allocation is as follows:

Floor	4	Cardiology
	5	Molecular Medicine
	6	Molecular Medicine
	7	Molecular Medicine
	8	Neurology and Other Departments
	9	Mechanical

Totally used for research, this proposed building is exempt from DON.

Northeast 6-8

The Finard Building occupied in 1985 was footed for future vertical expansion. At the time of filing a Determination of Need application 1 September 1987, expansion above the Finard Building was seen as a space solution for expanded clinical programs with Gryzmish 6, 7 and 8 adjacent renovated as part of the same project.



**BETH ISRAEL HOSPITAL
MASTER PLAN**

PRESENT AND FUTURE NEEDS

Since that time, Gryzmish 6, 7 and 8 have had minor renovations and continue to serve as nursing units for the expanded bed complement, reducing space available for other programs. Without adjacent space on Gryzmish 6, 7 and 8, Northeast 6, 7 and 8 no longer provides adequate space for inpatient care. However, it is being studied for its appropriateness for outpatient services.

The D.O.N. application for Northeast 6-8 filed 1 September 1987 has been withdrawn by the Hospital.

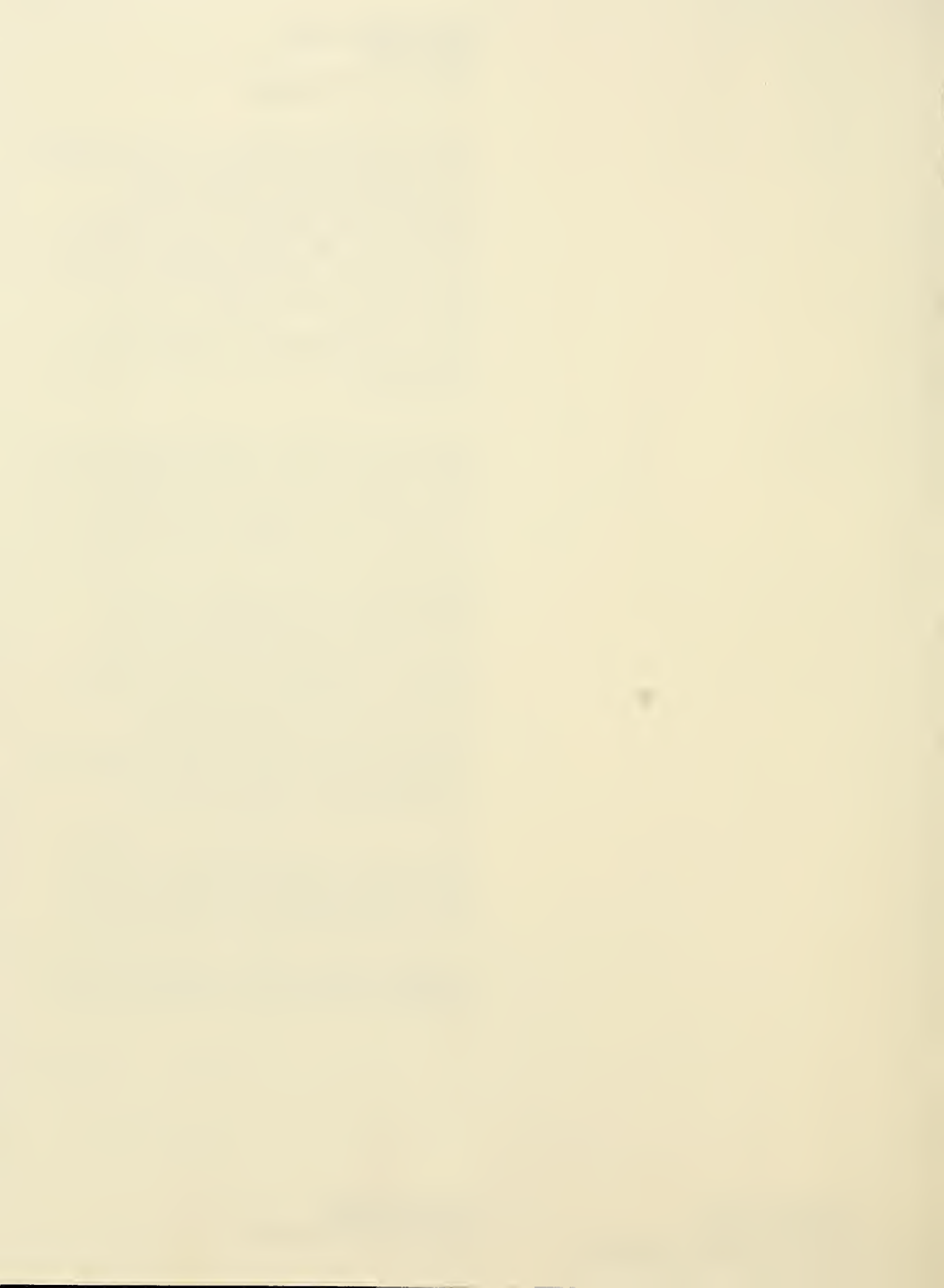
Rabb 4 & 5

Renovation of Rabb 4, construction on a portion of the roof of Rabb 4 and Rose 4 and construction of Rabb 5 was initially proposed to provide space for a consolidation of physician/faculty offices for the departments of surgery, anesthesiology and neurology.

Renovation of Yamins 2 and 4 will provide improved space for the departments of anesthesiology and medicine. The new construction on the Rabb/Rose roof will provide an enclosed connector between the Department of Medicine in Yamins 4 and Rabb/Rose 4. The fourth floor location for full-time faculty provides optimum adjacencies to research activities in Slosberg-Landay, Dana and Research West which have their primary entry point at floor 4 and to clinical activities in Northeast, Gryzmish, Stoneman, Feldberg and Reisman.

However, the pivotal location of Rabb/Rose 4 also makes its continued use for outpatient care a viable option. The Hospital is currently evaluating its use for outpatient care or for departmental offices.

The D.O.N. application for this project filed 1 September 1987 has been withdrawn by the Hospital.



**BETH ISRAEL HOSPITAL
MASTER PLAN**

PRESENT AND FUTURE NEEDS

Emmanuel

Leasing of the Science Building at Emmanuel and renovation for bio-medical research will provide additional space for research off-site but adjacent to Beth Israel's other research facilities. Divisions of the Department of Medicine and a part of the Department of Pathology will relocate to the Emmanuel site.

This project, scheduled for completion in January 1990, is called "Research East".

Animal Farm

To support increased research activity, the existing animal farm on the third floor of the Slosberg-Landay Building will expand into new construction above the roof of the existing chiller plant. Additional animal holding space will be provided, utilizing existing animal farm support.

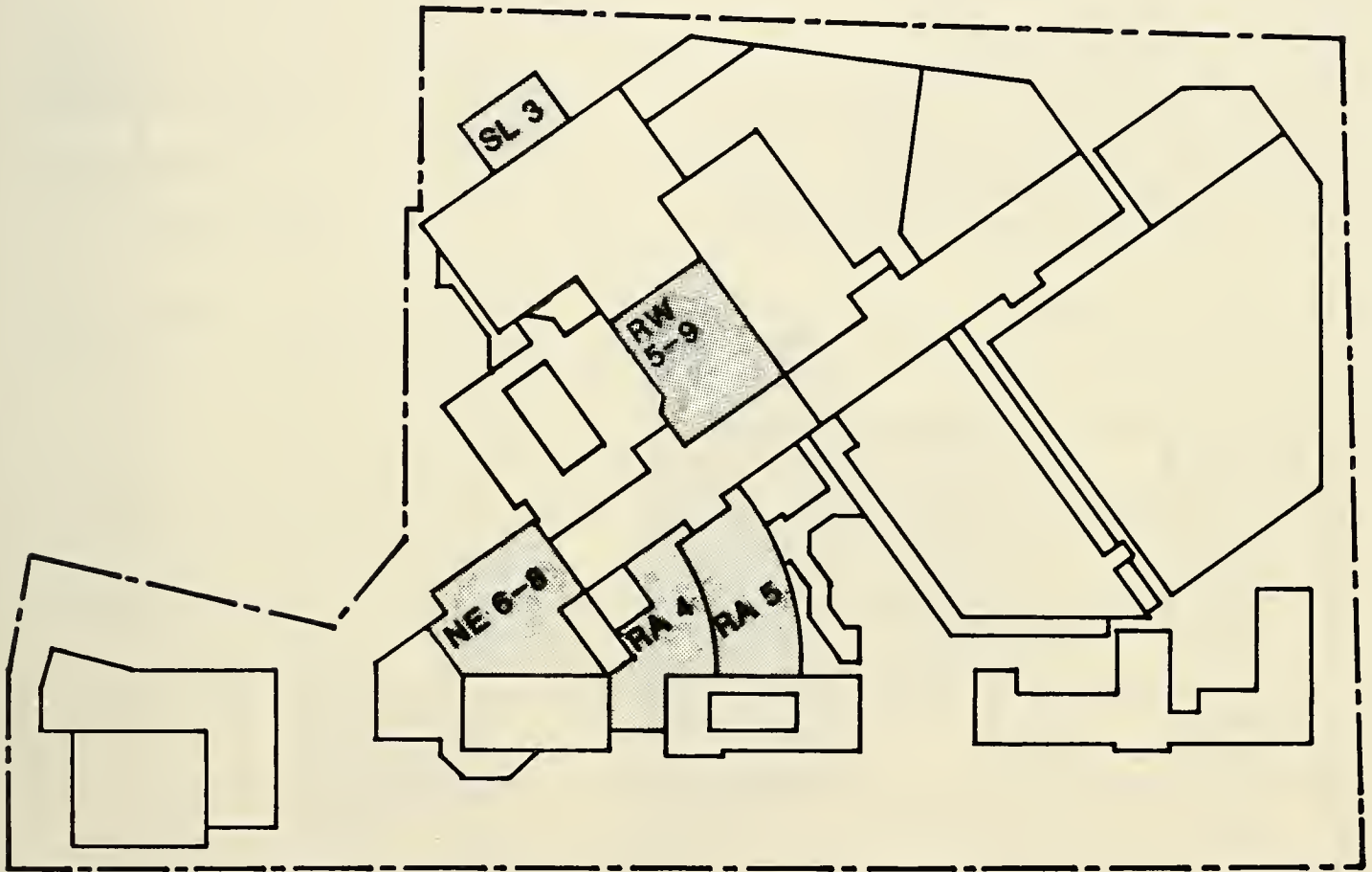
As of August 1989, construction has begun on this project with occupancy scheduled for April 1990.



BETH ISRAEL HOSPITAL
MASTER PLAN

PRESENT AND FUTURE NEEDS

Rooftop development sites proposed previously in January 1988 for expansion are
toned in the combined property plan below:



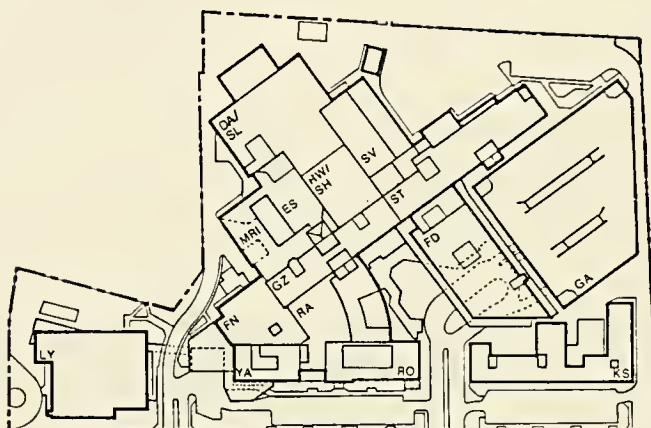
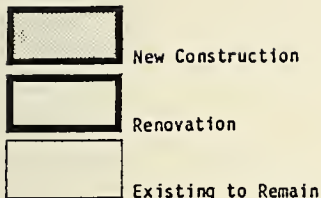
Notes:	RW 5-9	Construction of Research West completed
	S-L 3	Construction of Animal Facilities in process
	NE 6-8	Program currently in review
	RA 4 & 5	Program currently in review



**BETH ISRAEL HOSPITAL
MASTER PLAN**

PRESENT AND FUTURE NEEDS

Key Plan



Floor	Yamins	Rabb	East	Research West	Finard	Gryzmish	Stoneman
9				Mech			
8				Research	*	CRC	Obstetrics 25 Beds
7				Research	*	Med/Surg Unit	Obstetrics 25 Beds
6				Research	*	Med/Surg Unit	Surgery 30 Beds
5		*		Research	Mech	Dialysis/ Neuro	Neuro/Brach 30 Beds
4	Med Offices	*		Cardiology	Morse CCU	Morse CCU/ Cardiology	Cardiac 25 Beds
3	Labs/ Lab Support	Labs	Radiology CT Scan	Nuclear Medicine	Clinical Labs	Diagnostic Radiology	Anesthesia Recovery
2	Anesthesiology Offices	Nursing/ Ambulatory	Rad Support/ Spec Proc	Special Procedures	Medical Records	Fiscal/ Med Libr	Admin/ Board Rm
1	EU Support	Ambulatory/ EU	Pathology	Pathology	Emergency Unit	Pheresis	Ambulatory GI Unit
Basement	Mech		Mech	Bulk Stores	Radiation Therapy	Mech	Mech

Schematic Section: See notes Page 3.07

* Program currently in review



**BETH ISRAEL HOSPITAL
MASTER PLAN**

PRESENT AND FUTURE NEEDS

Square Footage Summary

Gross square footage of existing buildings on the Beth Israel Hospital campus, including recent construction of Research West, is:

Existing buildings 1,310,878 GSF

Gross square footage of proposed projects to be completed by 1990 on site is as follows:

Animal Farm/Mechanical 5,736 GSF

Gross square footage of the renovations to convert the Science Building on the Emmanuel Campus to research space for Beth Israel is:

Research East 51,629 GSF

Gross square footage of currently proposed projects on site, new construction is:

Southeast SB-10 143,796 GSF (a)

NICU ST-10 11,700 GSF

Child Care Center LY- 1 5,855 GSF

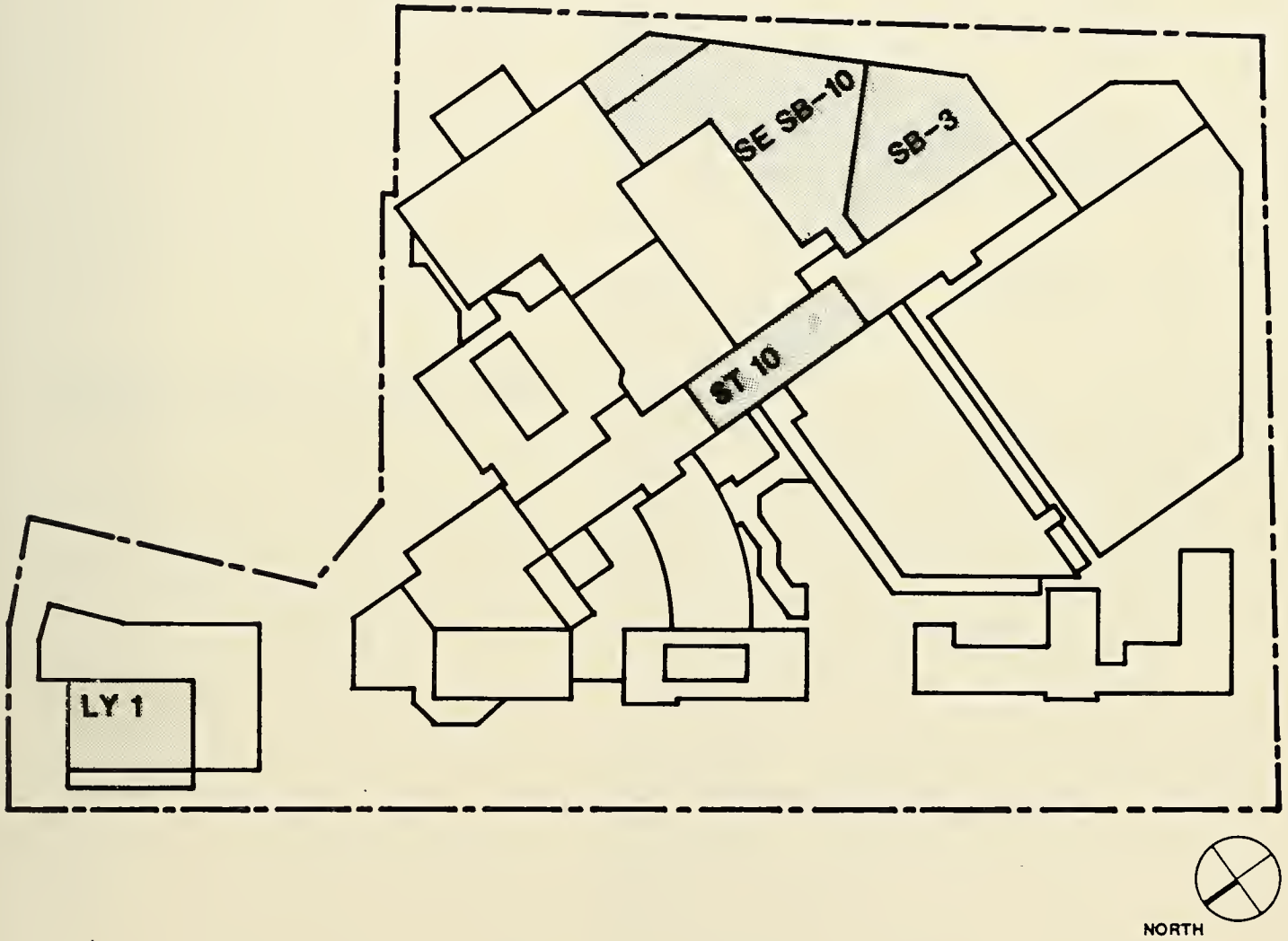
Notes:

(a) D.O.N. Application filed 1 Sep 88

BETH ISRAEL HOSPITAL
MASTER PLAN

PRESENT AND FUTURE NEEDS

Development sites currently proposed for expansion are toned in the combined property plan below:



**BETH ISRAEL HOSPITAL
MASTER PLAN**

PRESENT AND FUTURE NEEDS

Child Care Center

Beth Israel Hospital proposes to provide a child care center for the children of BIH employees. To help recruit and retain a high quality workforce, the Hospital intends to proceed with construction of an on site facility for 120 children in an addition to the Libby Building. The expansion will be on the first floor, atop the part of the building closest to Brookline Avenue which houses Clinical Computing. The Center will include 5,855 gross square feet of new construction and 3,540 square feet of renovation.

The Center will be managed by Bright Horizons, Inc., a child care management firm with 17 child care centers, most of them in Massachusetts.

Some degree of financial subsidy will be provided by the Hospital, based on gross family income.

Neonatal Intensive Care Unit (NICU)

Beth Israel Hospital proposes to convert its 12 existing Special Care Nursery bassinets to NICU beds and add eight additional beds to create a 20 bed NICU service. This NICU service is made necessary by the tremendous growth of obstetrics at the BI, the increased complexity and effectiveness of neonatal care, the increased proportion of obstetrical patients in high risk categories and the need to avoid transferring sick neonates to neighboring institutions for NICU care.

*Don
Approved*

Complementing the growth of the NICU service, the growth of obstetrics at the BI has caused the number of deliveries annually to increase from 2,500 in 1980 to 3800-4000 planned for the Labor and Delivery Suite to an actual number of 5900 deliveries currently.

With the optimum location for the NICU contiguous to the Labor and Delivery Suite, the Hospital proposes to construct an addition above the Stoneman and Gryzmish Buildings at the tenth floor, contiguous to the Labor and Delivery Suite on Reisman 10.



**BETH ISRAEL HOSPITAL
MASTER PLAN**

PRESENT AND FUTURE NEEDS

The addition will house the NICU and its support services at the tenth floor level, with the space below (double height floor at 8M and 9) used to house mechanical equipment.

Floor 8	Mechanical	6,014
Floor 10	NICU	<u>5,686</u>
		11,700

Space vacated by the NICU on Reisman 10 will be used for facilities to support the expanded needs of the Labor and Delivery Suite.

Neonatal care at Beth Israel Hospital is part of a Joint Program in Neonatology (JPN) with Children's Hospital and Brigham and Women's Hospital.

Southeast Building

When the last major new construction was completed in 1986, it was the intention of Beth Israel Hospital to close beds in the 1928 Gryzmish Building since they were not equal to the space standards of beds in the newer buildings.

With the recent change in D.O.N. regulations in Massachusetts, Beth Israel decided to reopen the Gryzmish beds, with minor alterations, to increase the adult bed complement. The decision to use the Gryzmish beds was seen as a temporary measure until they could be replaced in a new facility.

The planning for a major new building on campus was a result of the need to replace 69 beds which remain below the standard of the remainder of the Hospital, to increase the bed complement by an additional 48 beds, as well as to provide space for expansion of ambulatory services and meet the increasing needs of already constrained support space.

**BETH ISRAEL HOSPITAL
MASTER PLAN**

PRESENT AND FUTURE NEEDS

In September 1988, the Beth Israel Hospital filed a D.O.N. application to construct a new 10-story structure plus mechanical, basement and subbasement floors to upgrade and add inpatient beds, expand diagnostic and treatment services, upgrade and expand support services and teaching services. The site selected is at the southeast quadrant of the campus adjoining the Stoneman and Service Buildings. It is the only remaining on grade site of adequate size on the campus for a major building footprint. Of the current bed complement of the Hospital of 504 beds, 69 (15 Psychiatry, 12 Obstetrical, 32 Medical/Surgical and 10 Clinical Research Center) remain below the standard of the remainder of the Hospital. BIH plans to replace these beds in the new facility and to increase the adult bed complement by an additional 48 beds (26 Medical/Surgical, 10 Psychiatry and 12 Intensive Care) bringing the total to 552. Twenty neonatal intensive care beds were intended to be included in this project. The new beds would be served by a new elevator core at the center of a "T" formed by the Reisman Building at the west, the Stoneman Building at the south, and the new Southeast Building at the east. The new construction would bring all beds of the Hospital to the same standard and serviced from a central vertical circulation core.

The busy Ambulatory Surgery suite, Gastroenterology Unit, Pain Management Unit, Vascular Lab, Pulmonary Function Lab are sorely in need of decompression and will expand on one floor of this new building. Four new operating rooms and incremental recovery room expansion are planned for approximately half of one of the new floors. Renovation and expansion of Radiology, Nuclear Medicine and Special Procedures is also included in this project.

**BETH ISRAEL HOSPITAL
MASTER PLAN**

PRESENT AND FUTURE NEEDS

Even without the pressures of new beds, support services of the Hospital have been severely constrained. The new construction will provide for the following: Enlargement of the kitchen and cafeteria, a new receiving dock, additional warehouse and stores, and increased space for environmental services, maintenance, pharmacy, employee lockers and administrative offices.

The eighth floor of the new building will be reserved for conference and teaching space. The Medical Library will be relocated from its current location to the new building to permit its expansion and upgrading. Patient accounts, quality assurance/utilization review, parking and security and volunteer will be reassigned additional space in the vacated library.

The project will involve 165,874 net square feet (298,075 gross square feet) of new construction and 93,467 net square feet (143,796 gross square feet) of renovated space.

298,075

Space allocation in the D.O.N. application is as follows:

SB	Support Services, Warehousing	
B	Support Services, New Truck Docks, Receiving	
1	Kitchen Expansion, Ambulatory	
2	Cafeteria Expansion, Medical Library, Administration, Board Room, Center for the Advancement of Nursing Practice	
3	Operating Rooms, Diagnostic Services	
4	Clinical Research Center	10 beds
5	Psychiatry	25 beds
6	Medical/Surgical	30 beds
7	Oncology	26 beds
8	Conference Center	
9	Intensive Care Unit	12 beds
10	Neonatal Intensive Care Unit	20 beds

**BETH ISRAEL HOSPITAL
MASTER PLAN**

PRESENT AND FUTURE NEEDS

With the pressing need for the expanded Neonatal Intensive Care Unit, the Hospital has sought an alternative which may be achievable before the major financial commitment of the Southeast Building -- new construction of an 11,700 GSF addition above the Stoneman and Gryzmish Buildings. If that project receives its approvals (D.O.N. and Rate-setting) prior to action on the Southeast Building, the Hospital may proceed with the NICU Addition and reduce the scope of the Southeast Building.



ALTERNATIVE DEVELOPMENT SCENARIOS

General

In this section, remaining locations at Beth Israel Hospital will be identified where additional space may be obtained through new construction while retaining existing facilities:

Foundations and supporting structure of 5 buildings are designed for future vertical expansion; 3 other sites within the property line are available to be developed for both horizontal and vertical expansion.

Of these potential sites, three had been identified in January 1989 as proposed projects to solve the immediate programmatic needs described in Section 3:

- Research West 4-9
- Northeast 6-8
- Rabb 4 & 5

As previously noted in this interim report, Research West has been completed; the other two sites are being re-evaluated as space for outpatient care.

The Hospital proposes to utilize the potential site identified at the southeast quadrant of the site for major expansion; and, more immediately, to expand one floor above the Libby addition for a Child Care Center and to construct an addition above a portion of the Stoneman and Gryzmish Buildings for a Neonatal Intensive Care Unit.

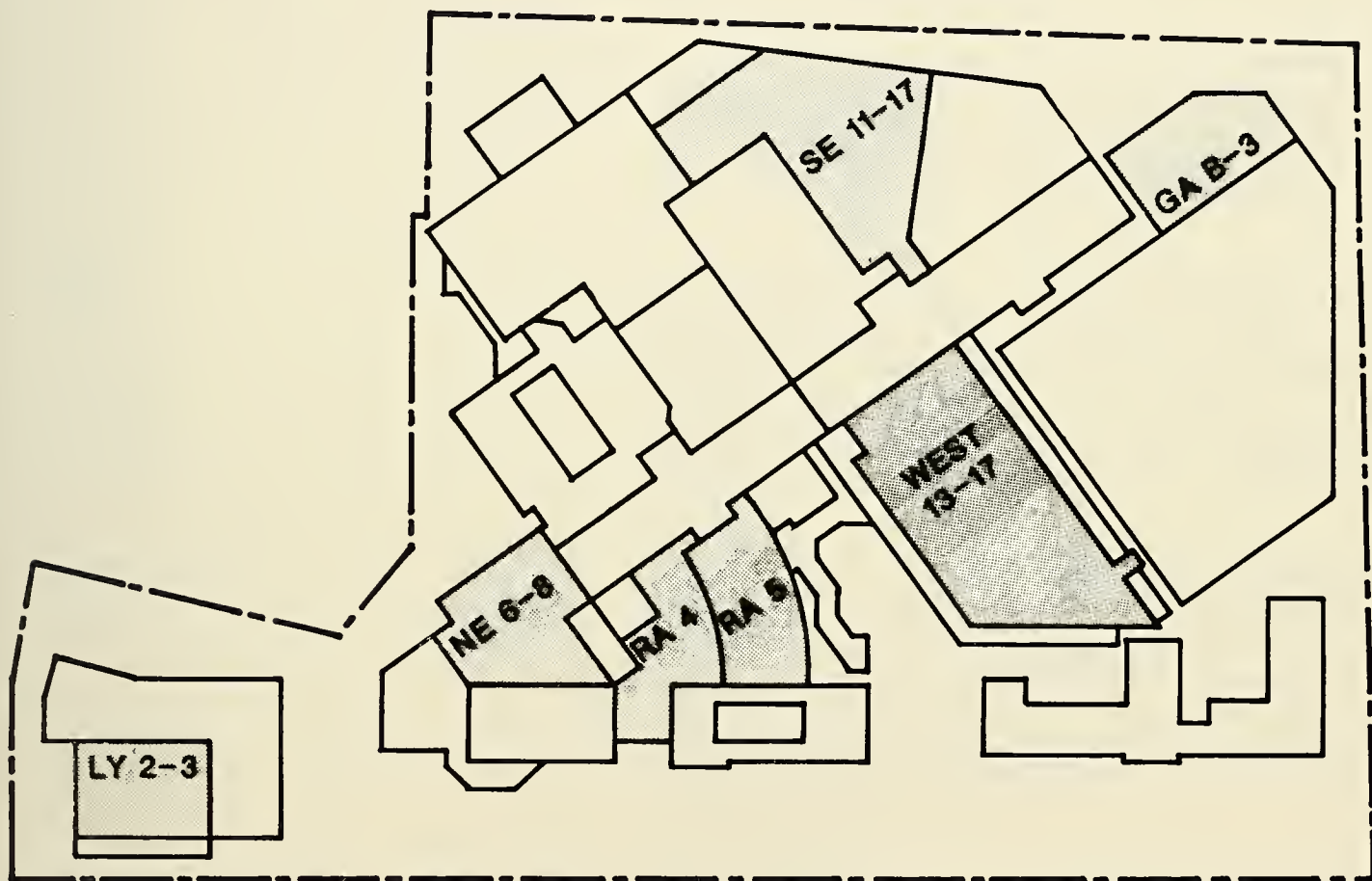
After implementation of these projects, the following locations remain as potential development sites:

<u>Building</u>	<u>Floors</u>	<u>Basis for Expansion</u>
Northeast	6-8	Existing foundations
Rabb	4&5	Existing foundations
Libby	2-3	Existing foundations
West	13-17	Existing foundations
Southeast	11-17	Foundation of SE SB-10
Garage	B-3	New footprint

BETH ISRAEL HOSPITAL
MASTER PLAN

ALTERNATIVE DEVELOPMENT SCENARIOS

Rooftop and ground level development sites remaining for expansion are toned in the combined property plan below:



**BETH ISRAEL HOSPITAL
MASTER PLAN**

ALTERNATIVE DEVELOPMENT SCENARIOS

Adjacent Site Acquisition

Other development scenarios may be generated if Beth Israel Hospital has the opportunity to acquire adjacent sites.

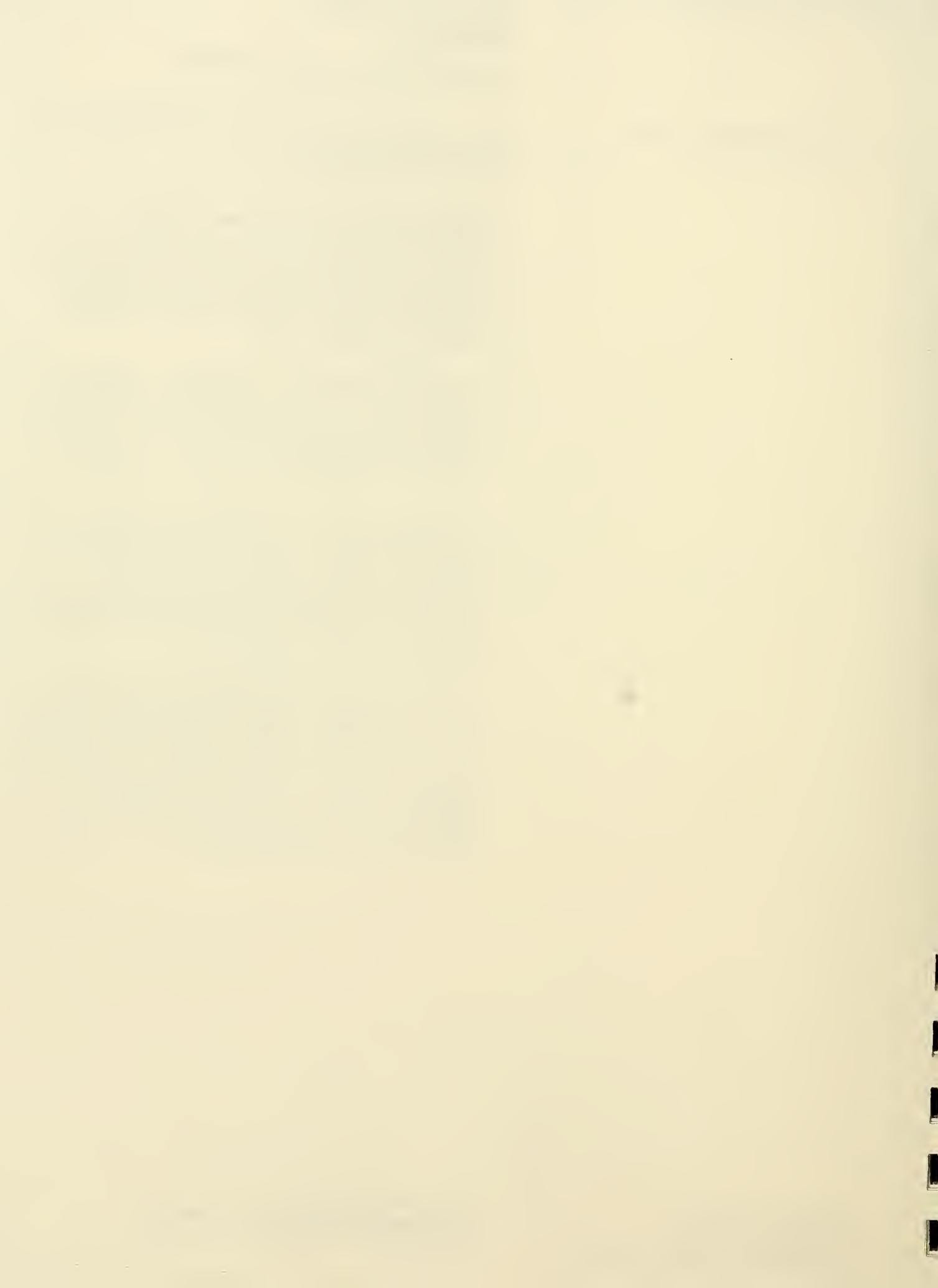
Parcels which have been the subject of discussion over the past several years include the Massachusetts College of Art (MCA); a portion of the Emmanuel College campus adjacent to the east boundary of BIH; and a portion of the Winsor School campus, either at the north end bordering Short Street or the south end bordering Longwood Avenue.

A composite plan showing potential connectors between BIH and off-site parcels is attached. Although each of these adjacent sites has been the subject of study and discussions over the past years, the MCA is the only site which is the current focus of attention.

MCA

At the present time, the Commonwealth of Massachusetts Division of Capital Planning and Operations (DCPO), Office of Real Property which handles the disposition of surplus state property, has received final development guidelines from the Citizens Advisory Committee to advise in the reuse of the MCA - Longwood Parcel.

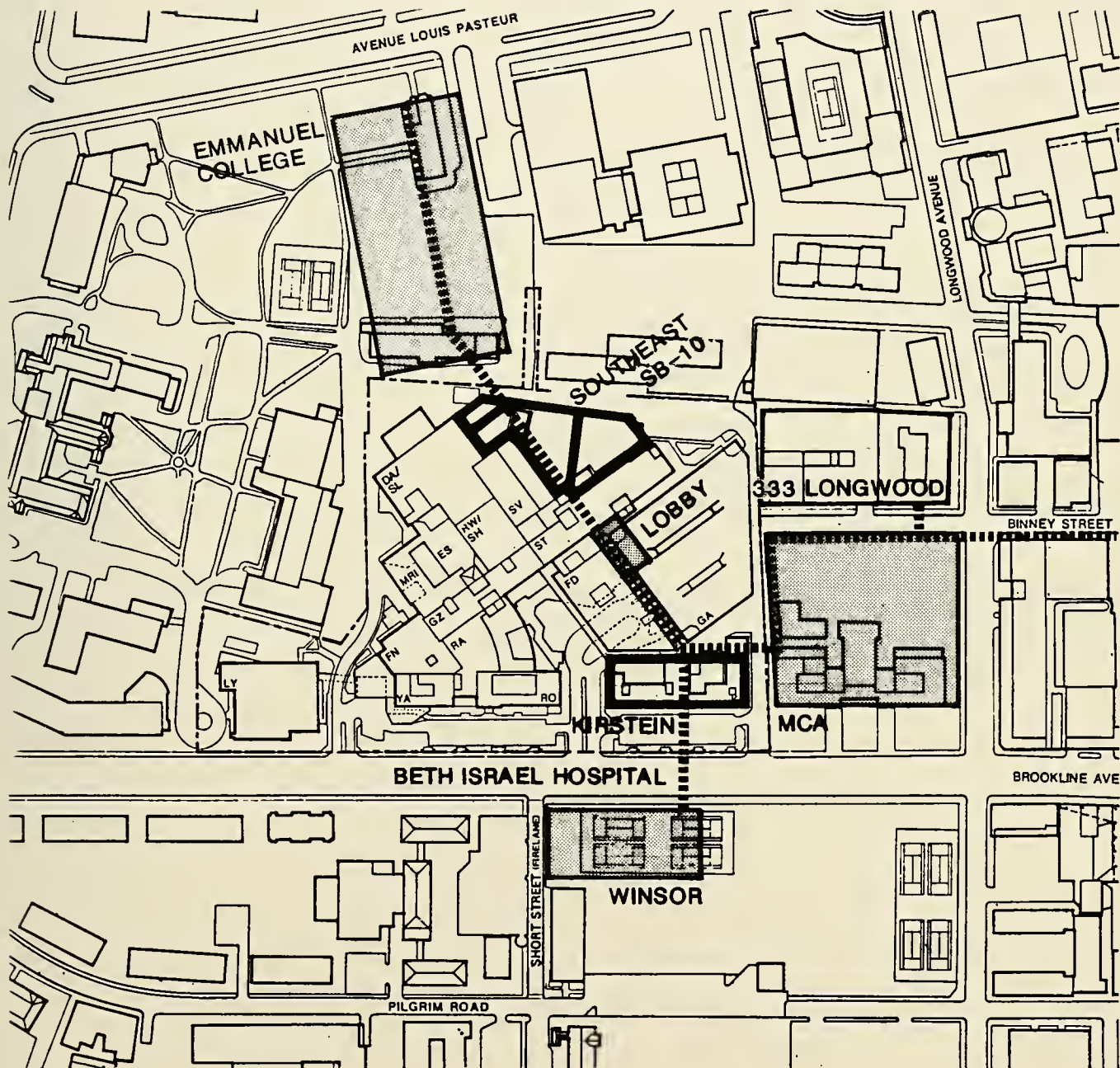
The MCA parcel is of particular interest to Beth Israel Hospital which has been landlocked for years and has looked to this adjacent site as a potential area for expansion; the focus would be a mixed use development to benefit the Longwood Medical Area, the neighborhood, city-wide and regional interests as well as to provide needed development space for the landlocked Beth Israel Hospital.



BETH ISRAEL HOSPITAL
MASTER PLAN

ALTERNATIVE DEVELOPMENT SCENARIOS

LONGWOOD MEDICAL AREA/CONNECTORS



**BETH ISRAEL HOSPITAL
MASTER PLAN**

ALTERNATIVE DEVELOPMENT SCENARIOS

Remote Sites

Certain sites in the larger vicinity of the hospitals but outside of the immediate Longwood Medical Area arise in discussions of their potential for hospital use; Beth Israel has considered utilization of off-site development at certain remote sites. For example, 109 Brookline Avenue has become the leased site for over 40,000 square feet of purchasing, fiscal, and computer space. Refer to Page 3.03 "Off-site Moves". However, with this off-site move, the mix of activity on-site becomes even more intensively clinical and research. At this point in time, the Hospital sees the administrative space which remains on-site as requiring adjacency to clinicians and clinical activity.

Two sites which have been the focus of recent discussions on potential off-site moves are the Sears site and Parcel 18. Beth Israel considers the move of physician scientists off-site for their research activities to a location as remote as Parcel 18 to be a significant problem in that it disassociates them from the bedside. The Hospital is evaluating leased space for research at the Sears site versus providing additional research space on site.

The plan on page 4.04 illustrates sites to which Beth Israel's main campus could have a direct physical connector, a major advantage for communication and transportation.



BETH ISRAEL HOSPITAL
MASTER PLAN

ALTERNATIVE DEVELOPMENT SCENARIOS

Square Footage Summary

Gross square footage of future projects with potential for on site development 1995+ is as follows:

Northeast	6- 8	23,400
Rabb	4 & 5	10,000
Libby	2- 3	11,000
West	13-17	97,000

MCA

If the Massachusetts College of Art- Longwood Parcel - were available to Beth Israel Hospital for development, preliminary studies have indicated the following program possibilities:

Center for Emerging Technology	25,000
The Learning Center	37,000
Medical Research and Development Center	10,000
Beth Israel Medical Space	130,000
Retail & Restaurant	40,000
Parking 800 - 900 spaces say	240,000





**BETH ISRAEL HOSPITAL
MASTER PLAN**

TRANSPORTATION & PARKING

LMA/MASCO

Transportation and parking at Beth Israel Hospital is linked to the circulation and parking for the Longwood Medical Area as a whole. Currently, MASCO is analyzing circulation and parking for the LMA and preparing a plan to meet future needs.

Employee Parking

For several years, Beth Israel has been implementing a policy to have employees park in off-site parking lots and come to the hospital by shuttle buses provided by BIH. With the proposed construction of Research West, it is anticipated that only 20% of the employees added by that building addition will travel to work by private automobile, approximately 20 people. The recent increase of 200 parking spaces in the parking deck on the site leased from Emmanuel will accommodate these parkers.

Patient and Visitor Parking

The Hospital policy is to reserve the limited on-site parking for patients and visitors.

Increase in Parking

The existing BIH Garage does not have the structural capability for vertical expansion; horizontal expansion to the east has been studied but its limited size precludes its feasibility at this time.

**Cooperation in Areawide
Parking Development**

MASCO has undertaken a study of areawide traffic, including data collection, engineering analysis and recommendations. Beth Israel has contributed to MASCO'S efforts to date and intends to cooperate in future areawide efforts to improve traffic and parking.



TRANSPORTATION & PARKING

Remote Parking Facilities

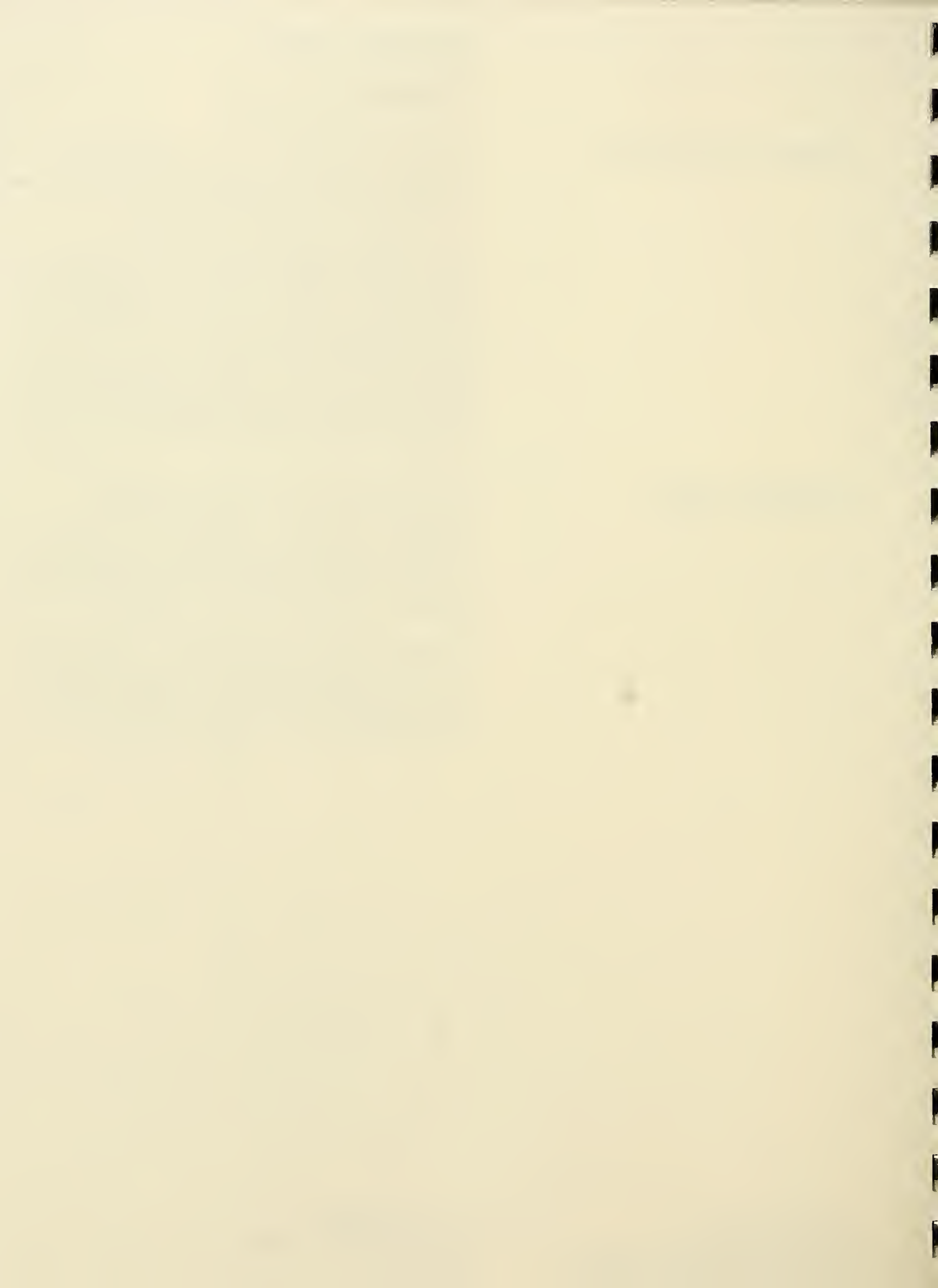
Beth Israel currently rents 1130 monthly parking spaces at thirteen decentralized sites in addition to on-site parking.

If adequate spaces were available in a centralized parking facility, such as a garage with direct turnpike access in the Kenmore Square area, Beth Israel could vacate some or all of its decentralized rented parking space, including those in the Fenway area. However, Beth Israel Hospital does not own the decentralized sites so that it cannot control their disposition after withdrawing the rental parking, except to participate as part of the community in recommendations for potential reuse.

Parking for Research
On Emmanuel Campus

Additional parking required for Beth Israel's use of the Science Building on Emmanuel's campus is calculated at 35 cars. Parking on the Emmanuel site under the same lease as the building provides 100 additional spaces to Beth Israel. With the addition of a parking deck, that capacity doubles.

Vehicular traffic to the building and parking lots will be via Avenue Louis Pasteur, the least traveled street in the area. Number of automobile trips per day is estimated at 80; peak afternoon load is estimated at 11.



**BETH ISRAEL HOSPITAL
MASTER PLAN**

TRANSPORTATION & PARKING

Summary of Parking Needs

Incremental demand for additional parking for currently proposed projects is estimated as follows:

Research West	23 spaces
Emmanuel Science Building	35
Animal Farm	<u>0</u>
	58 spaces

Additional parking formerly available to BIH on grade at the Emmanuel site is: 100 spaces

With the parking deck on the Emmanuel site, the number of spaces available to BIH will double. The deck will be available for use December 1989.

Further, Beth Israel Hospital is negotiating for additional off-site parking supply at Merchants Tire building, 1295-1299 Boylston Street in the Fenway.

Parking after 1995

Since specific space programs have not been developed for future projects beyond 1995, parking needs cannot be estimated at this time. At the time that major increments of space increase are proposed, parking needs will be evaluated.

Transportation Master Plan

In response to the request from the Boston Redevelopment Authority and Transportation Department, the Beth Israel Hospital has been working with Vanasse Hangen Brustlin Inc. to prepare a transportation master plan. The resulting document "Draft Transportation Master Plan/Environmental Impact Study" dated September 1989 has been issued under separate cover by VHB to the Boston Redevelopment Authority and Transportation Department.

It supersedes the information in this section transmitted previously.







